

1/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--OTOPLASTY WITH A FIGURE TRANSPLANT FROM THE HEALTHY AURICULAR
CONCHA -U-
AUTHOR--KRUCHINSKIY, G.V. *K*
COUNTRY OF INFO--USSR
SOURCE--STOMATOLOGIYA, 1970, VOL 49, NR 2, PP 51-53
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--TISSUE TRANSPLANT, PLASTIC SURGERY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1985/1696 STEP NO--UR/0511/70/049/002/0051/0053
CIRC ACCESSION NO--AP0101751
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0101751

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A NEW METHOD OF RESTORING THE AURICULAR CONCHA BY MEANS OF FREE GRAFTING WITH A FORM COMPLEX DERMATOCARTILAGINOUS TRANSPLANT FROM THE HEALTHY EAR IS DESCRIBED. THE FIGURE TRANSPLANT REPRESENTS A FULL THICKNESS WEDGE, ON THE LATERAL SURFACE OF WHICH THERE ARE TWO PERPENDICULARLY SITUATED WEDGE LIKE PROMINENCES. THE TRANSPLANT INCLUDES A PART OF THE CURVATURE, ANTICURVATURE AND AUDITORY FOSSA. GRAFTING OF THE FIGURE TRANSPLANT ENSURES A RATIONAL UTILIZATION OF TISSUES TAKEN FROM THE DONOR EAR AND SIMULTANEOUSLY ENABLES TO INCREASE THE AURICULAR CONCHA BY THE LENGTH OF THE CURVATURE AS WELL AS IN WIDTH. THE REFERRED TO FIGURE TRANSPLANT WAS SUCCESSFULLY EMPLOYED IN 25 PATIENTS SUFFERING FROM ANOMALIES AND POST TRAUMATIC DEFECTS OF THE AURICULAR CONCHA.

UNCLASSIFIED

AA0040688

UR 0482

1-76

Soviet Inventions Illustrated, Section I Chemical, Derwent,

240614 PRETREATMENT OF STARCH FOR ELECTRO-
PHORESIS is effected by partial hydrolysis
with acids such as, e.g. hydrochloric acid in
an aqs. suspension and subsequent neutralisation
conditioning at a temp. below the gelation temp.
and separation of the purified starch from the
resulting liquid phase. 18.3.67. as
1141525/28-13, SCHULTZ, P. et al. (Priority:
19.3.66. East Germ. 116584)
(25.8.69) Bul. 12/21.3.69. Class 89k, Int. Cl.
C 13 1.

AUTHORS: Schultz, P.; Kruger, G.; and Samland, K.

LD 6

19750302

USSR

UDC 621.378.955

KRUGLIK, G.S., PESTOV, E.G.

"General Method Of Calculation Of A Beat Frequency In A Single-Mode Ring Laser"

Kvantovaya elektronika (Quantum Electronics), Moscow, No 5(11), 1972, pp 28-29

Abstract: On the basis of a general analysis of input equations -- the well known system of shortened amplitude-phase equations developed for coupled modes of a ring laser in an approximation of a weak field -- a more precise formula is introduced for the beat frequency of a ring laser operating in a single-mode stationary regime. In addition, one of the possible solutions is offered of the reverse problem: determination of the rotational speed of a system with respect to the changed values of the beat frequency and the intensity of copropagating waves. The authors thank P.A. Apanasovich for critical remarks. 1 fig. 11 ref. Received by editors, 28 Sept 1971.

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USSR

UDC: 621.378.3

PESTOV, E. G. and KRUGLIK, G. S.

"Polarization Effect of the Competitive Weakening of Opposing Waves in Ring Lasers"

Minsk, Zhurnal prikladnoy spektroskopii, vol 16, No 6, 1972, pp 985-990

Abstract: Opposing waves in ring lasers leads to the suppression of one of the waves and sharply varies the beat frequency as a function of the resonator parameter adjustment. In the present paper, a method other than the conventional one for reducing the competition of the opposing waves is presented. It is based on a reduction in the effect of cross-saturation for opposing waves with different polarizations. The advantage of this polarization method is that it reduces the linear coupling between the waves because of the inverse dispersion in addition to weakening the nonlinear interaction of the waves. The theory of the method is developed, beginning with the expressions for the constant components of the intensities of the opposing waves. The authors express their gratitude to S. G. Rautian and P. A. Apanasevich for their useful discussions of the paper.

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1/2 050 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PARAMETRIC RESONANCE IN AN ANNULAR LASER -U-

AUTHOR--(04)-KRUGLIK, G.S., PESTOV, E.G., POKROVSKIY, V.P., KUTSAK, A.A.

COUNTRY OF INFO--USSR *R*

SOURCE--VSESOIUZNYI SIMPOZIUM PO FIZIKE GAZOVYKH OKG, NOVOSIBIRSK, USSR,
JUNE 1969. ZHURNAL PRIKLAADNOI SPEKTROSKOPII, VOL 12, MAR 1970, P.
DATE PUBLISHED---MAR 70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--GAS LASER, PERTURBATION, LASER STABILITY, PARAMETRIC
RESONANCE, FREQUENCY CHARACTERISTIC

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1989/2025

STEP NO--UR/0368/70/012/000/0432/0440

CIRC ACCESSION NO--AT0108351

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0108351

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL AND EXPERIMENTAL INVESTIGATION OF THE EFFECT OF AN EXTERNAL PERIODIC PERTURBATION ON THE DIFFERENCE FREQUENCY OF OPPOSITELY MOVING WAVES IN AN ANNULAR GAS LASER.

IT IS SHOWN THAT IN THE RESONANCE RANGE, WHERE THE PERTURBATION FREQUENCY IS CLOSE TO THE BEAT FREQUENCY, THE ORDINARY CONDITIONS OF OPERATION OF AN ANNULAR LASER BECOME UNSTABLE. A QUALITATIVELY NEW REGIME OF FORCED SYNCHRONIZATION WITH THE FREQUENCY OF THE ACTING PERTURBATION ARISES, LEADING TO A COMPLETE LOSS OF INFORMATION ABOUT THE ROTATIONAL VELOCITY OF THE SYSTEM. THE CALCULATED WIDTH OF THE SYNCHRONIZATION ZONE IS IN QUALITATIVE AGREEMENT WITH EXPERIMENTAL DATA.

UNCLASSIFIED

USSR

UIC 547.26'118

GORBATENKO, V. I., KRUGLIK, L. I., and SAMARAY, L. I., Institute of Organic Chemistry, Academy of Sciences, Ukrainian SSR

"Isocyanatodiarylmethyl O,O-Diaryl Phosphonates"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 1043-1047

Abstract: Previously it had been shown that ketimines react with phosgene yielding a mixture of tautomers: N-chlorocarbonylketimine and O-chloroalkyl isocyanates. The mixture of these tautomers reacted with acid or neutral phosphites in presence of triethylamine acting as an acceptor for hydrogen chloride yielded isocyanatodiarylmethyl O,O-diaryl phosphonates -- viscous light yellow liquids. They are not exceptionally reactive with primary amines and with alcohols in presence of catalytic amounts of triethylamine.

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USSR

UDC 615.372:576.851.49].07

SHAPIRO, N. I., VASIL'YEVA, T. G., MOSLICHEVA, I. V., EUDKINA, M. I.,
KRUGLIKHINA, Z. M., SAZONETS, G. I., OZERETSKOVSKIY, N. A., BALAYAN, V. D.,
and KOVAL'SKAYA, S. Ya., Leningrad Institute of Vaccines and Sera and State
Control Institute of Medical Biological Preparations imeni Tarashevich, Moscow

"Molecular Heterogeneity of Endotoxins Extracted From the Typhoid-Paratyphoid
Group of Bacilli. Report II. Antigenic Structure and Biological Activity of
High and Low-Molecular-Weight Fractions"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1971,
pp 35-39

Abstract: By means of sepharose 2B columns, endotoxin extracts from typhoid
(4446) and paratyphoid B (50602) bacilli can be separated into a high-molecular-
weight and a low-molecular-weight fraction. Components of the latter fraction
retain some serological specificity but are nontoxic, exert a low protective
activity, and display no stressor activity. On the other hand, components of
the high-molecular-weight fraction have a full antigenic structure, are highly
immunogenic and toxic, and display pronounced stressor activity. The high-
molecular-weight fraction is the carrier of the biological properties of
typhoid and paratyphoid endotoxins.

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1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--SOLUBILITY OF CARBON DIOXIDE IN ORGANIC SOLVENTS -U-

AUTHOR--(05)-PODVIGAILOVA, I.G., ZEYNALOV, B.K., KRUGLIKOV, A.A.,
RADZHABOV, D.T., SHAGIDANOV, E.N.
COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(5), 338-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CARBON DIOXIDE, PETROLEUM HYDROCRACKING, PHOSPHATE, ORGANIC
SOLVENT, SOLUBILITY, PETROLEUM RESIDUE, XYLENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3008/0340

STEP NO--UR/0064/70/046/005/0338/0339

CIRC ACCESSION NO--AP0137444

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137444

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN APP. USED TO DET. THE SOLY. (IN VOLS.-VOL.) OF CO SUB2 IN LIQS. OR SOLNS. IS DESCRIBED. THE SOLY. IN 58 LIQS. TESTED RANGED FROM 126 FOR ET SUB2 NH TO 0.4 TRIXVLVLENE PHOSPHATE. THE FOLLOWING SUBSTANCES MAY FIND USE IN THE REMOVAL OF ACIDIC GASES FROM AIR OR INDUSTRIAL GASES: ET SUB2 NH, POLYETHYLENE POLYAMINE (2PERCENT SOLN. ABSORBS 7.6 VOLS. CO SUB2-VOL), AND PLASTIZAN 30A (ETHYLENE GLYCOL C SUB7-9 FATTY ACID ESTERS) (1 VOL. ABSORBS 2.7 VOLS. CO SUB2), WHICH IS PRODUCED FROM INEXPENSIVE AND AVAILABLE PETROLEUM CRACKING RESIDUES.

UNCLASSIFIED

USSR

UDC 619:616.988.43-084.47

ANTONYUK, V. P., KRUGLIKOV, B. A., BARBASHOV, V. P., BASHKATOV, S. F.,
and MAKAREVICH, F. G., State Scientific Control Institute of Veterinary
Preparations

"Significance of Specific Prophylaxis of Foot-and-Mouth Disease"

Moscow, Veterinariya, No 9, 1971, pp 46-48

Abstract: Experience gained in the USSR and other countries proved that planned regular vaccination and revaccination (when used together with other veterinary sanitation measures) play an important role in the control of foot-and-mouth disease (FMD), particularly since the immunizing activity of the vaccine has been enhanced by the addition of saponin. Planned FMD vaccination was begun in the USSR in 1954, when 12.6 million head of cattle in zones of epizootic outbreaks of the disease were immunized. More than 132 million animals were vaccinated in 1969. As a result, the disease and its foci have been almost completely eradicated in the RSFSR, Ukraine, Belorussia, and Moldavia. Vaccination and revaccination are of particular importance in the republics of Central Asia, Transcaucasia, Northern Caucasus, and some oblasts of Kazakhstan, where the system of long cattle drives and the possible mixing of large masses of animals makes them

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ANTONYUK, V. P., et al., Veterinariya, No 9, 1971, pp 46-48

particularly susceptible to epizootic outbreaks. An analysis of available data on immunization in the republics of Uzbekistan, Kirgizia, and Tadzhikistan reveals that vaccination there is conducted in an irregular and haphazard manner, with the result that large number of animals remain unvaccinated. It is important that a plan for the vaccination and revaccination of cattle during February-March, and again in August-September, and of smaller animals during the months of November-December, and again in April and November of the next year be adopted. Planned and complete immunization must be regarded as an important component in the measures for the eradication of FMD.

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UDC 619:616.988.43:615.372

KRUGLIKOV, B. A., ANTONYUK, V. P., YURCHENKO, A. N., TRUNILIN, S. N., and KAZENOV, N. I., State Scientific Control Institute of Veterinary Preparations, Kok-Yangak Veterinary Station, Oshskaya Oblast

"Transport and Storage of Foot-and-Mouth Disease Vaccines"

Moscow, Veterinariya, No 5, May 71, pp 49-50

Abstract: In storing and transporting foot-and-mouth disease vaccines with aluminum hydroxide formaldehyde composition, the optimum temperature conditions (from +1 to +8°C) must be maintained. This is important when the vaccines are transferred from the production plant to the various veterinary stations, particularly in the spring and summer, when mass immunizations of cattle are performed in the Soviet republics of Central Asia and in the Transcaucasian region. Polyethylene bags of various sizes were tested for this purpose. For the transport of 4-5 liters of vaccine, polyethylene bags 800 mm long and 500 mm wide were most practical. Two such bags are used, one inside the other. The inner bag should be 150-200 mm smaller than the external one. The internal bag contains the vaccine and is surrounded by ice (in the external bag). Both bags are closed by a plastic ring on top. The filled bags are placed in precooled ice chests and cooling boxes. The proposed bags were used under conditions

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KRUGLIKOV, B. A., et al, Veterinariya, No 5, May 71, pp 49-50

of +21, +25, and +28°C and kept the temperature of the control flacon at +4°C to +7°C for a period of 0-8 hours. When a freezing mixture (ice+salt) instead of ice is used, the temperature of the vaccine flacons is kept at 2-4°C, but for a shorter time period because of breakdown of the ice crystals. The proposed double bags of polyethylene are cheap, convenient to use at any veterinary station, and sufficient for bringing the vaccine to the immunization site.

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UDC: 621.372.01-503.25

OS'MANIN, A. A., PODUNAYEV, G. A., KRUGLIKOV, G. A.

"On the Time Resolution of Circuits With a Selective Tank"

Uch. zap. Ul'yansovsk. gos. ped. in-t (Scientific Notes of Ulyanovsk State Pedagogical Institute), 1970, 24, No 3, part 2, pp 307-314 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A86)

Translation: The authors introduce the concept of time resolution of the circuits they are investigating. It is shown that analytical determination of time resolution requires derivation of an expression for the dynamic frequency characteristic of the system. Such a frequency characteristic is analyzed. The resultant expressions are used as a basis for determining the resolution as a function of the parameters of the input signal and circuit parameters. Four illustrations, bibliography of six titles. N. S.

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USSR

UDC 612.8

KRUGLIKOV, R. I., and DOLGANOV, G. M., Institute of Higher Nervous Activity and Neurophysiology, Academy of Sciences USSR, Moscow.

"The Effect of Scopolamine on the Formation, Preservation, and Restoration of Temporary Connections"

Moscow, Zhurnal Vysshey Nervoy Deyatel'nosti imeni I. P. Pavlova, Vol 22, No 4, Jul/Aug 72, pp 837-842

Abstract: Scopolamine hydrobromide was administered to mice intraperitoneally in doses of 2.5 and 5 mg/kg. Both doses given 20 min prior to formation of a passive avoidance conditioned reflex (PACR) produced amnesia. However, the smaller dose given immediately after formation of the PACR or 20 min prior to testing its retention produced no substantial effect. While amnesia induced by the smaller dose was eliminated by reminding, the loss of memory due to the larger dose was not. Formation of an active avoidance conditioned reflex (AACR) was significantly delayed by the smaller dose of scopolamine given 20 min in advance. Though the established AACR's were well preserved, their number was smaller than in control animals during both training and subsequent testing. It is concluded that scopolamine disturbs formation of temporary associations by inhibiting reverberation of nerve impulses and diminishing fear.

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WDC 612.821.2

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MEYERSON, F. Z., ISABAYEVA, V. A., IVANSHINA, A. Z., KRUGLIKOV, R. I., and GLUMOV, G. M., Institute of Normal and Pathological Physiology of the USSR Academy of Medical Sciences, Moscow, and Medical Institute of the Ministry of Health Kirgiz SSR

"Conditioned Reflexes in Massive and Expanded Training of Animals of Two Different Genetic Lines in the Process of Adaptation to Altitude Hypoxia"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlov, Vol 21, No 2, 1971, pp 470-477

Abstract: Mice of two genetic lines, BALB/c (I) and C57BL/6 (II), were used in experiments to determine the comparative rate of development and degree of preservation of conditioned avoidance and escape reflexes in the process of the animals' adaptation to altitude hypoxia. The methods of massive and expanded development of conditioned reflexes -- the first at 20 second and the latter at 90 second intervals between pairings were used. The control experiments were carried out in Moscow; the experiments themselves, -- 5, 10, 20, and 40 days after the transfer of the animals to the Tuya Ashu mountain pass at an altitude of 3,200 meters. The reflexes were developed by placing the mice into the

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MEYERSON, F. Z., et al, Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlov, Vol 21, No 2, 1971, pp 470-477

main stem of a T-shaped labyrinth with passages permitting the animals to run to the illuminated sides of the T, and conducting an electric current to the floor of the area where the mice were initially placed. The degree of reflex preservation was determined by repeating the conditioning process to the initial criterion, and computing the preservation index on the basis of the difference in the number of pairings required to attain this criterion. The investigations established that under hypoxia the rate of the conditioning of both lines of animals by the massive method was substantially retarded in the beginning. In the course of adaptation to hypoxia, however, the rate of reflex development with the use of the massive method accelerated with the mice of line (1) attaining the initial level, and of line (2) considerably exceeding the level prior to that at the time of the arrival in the mountains. The expanded method when used for line (1) retarded and when used for line (2) had little effect on the conditioning rate. The degree of reflex preservation in both lines improved with the adaptation of the animals to hypoxia. It was further established that the mice of line (2) adapted to hypoxia conditions

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MEYERSON, F. Z., et al, Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlov, Vol 21, No 2, 1971, pp 476-477

more successfully than did the mice of line (1). The latter, within 20 days after their transfer to the high altitude began to lose weight, their motor activity diminished and their fur began to lose its gloss. They developed a mortality rate of 33 percent as compared with that of five percent of the mice of line (2). The various aspects of the results obtained in the investigations are discussed. The assumption is that the indicated differences between the two genetic lines of mice reflect the difference in their neurodynamic and consolidation processes. Two tables and 28 reference entries accompany the article.

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USSR

UDC 612.275.1

MEYERSON, F. Z., ISABAYEVA, V. A., IVANSHINA, A. Z., PRUGLITOV, R. I., and GLEBOV, G. M., Institute of Normal and Pathological Physiology, Academy of Sciences USSR, and Kirgiz State Medical Institute, Ministry of Health, Kirgiz SSR

"Formation and Retention of Conditioned Reflexes During Concentrated and Protracted Training of Animals of Two Different Genetic Lines in the Course of Adaptation to High-Altitude Hypoxia"

Frunze, Sovetskoye Zdravookhraneniye Kirgizii, No 4, Jul/Aug 70, pp 38-46

Abstract: Conditioned reflexes of avoidance and escape (from electric shocks) were formed in BALB/c and C57BL/6 mice in Moscow (control) and in a mountain locality (3200 m above sea level). Reflexes were established 5, 10, 20, and 40 days after arrival by concentrated training (short intervals of time between presentation of stimuli) and protracted training (long intervals between stimulation). The C57BL/6 mice are known to adapt to hypoxia much better than the BALB/c mice. With concentrated training, the adapted C57BL/6 mice developed avoidance and escape reflexes three times more rapidly than before exposure to high altitude, whereas the rate of reflex formation in the BALB/c mice remained the same. With protracted training, the C57BL/6 mice developed the reflexes just as quickly as or even more quickly than before exposure to the high altitude. The situation

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MEYERSON, F. Z., et al, Sovetskoye Zdravookhraneniye Kirgizii, No 4, Jul/Aug 70,
pp 38-40

was the opposite in Moscow. Here it took two to three times as long to form the
reflexes in the L1B/c mice as in the C57BL/6 mice. The degree of retention of the
reflexes increased with increasing adaptation to hypoxia in both genetic lines
and with both methods of training.

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USSR

UDC 616-007.053.1-02:621.37/.39.029.64

PIONTKOVSKIY, I. A., KRUGLIKOV, R. I., and YEFREMOVA, N. A., Laboratory of Neuroradiology, Institute of Higher Nervous Activity and Neurophysiology, Academy of Sciences USSR

"Embryological and Genetic Effects of Ultrahigh-Frequency Electromagnetic Oscillations"

Moscow, Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya, No 2, 1970, pp 33-38

Abstract: Somatic development and CNS function were studied in the offspring of rats born of mothers exposed to microwaves (2 12.6 cm at 10 and 50-55 mw/cm² for 20 and 15 min, respectively) during pregnancy (embryological effect), and in the offspring of nonirradiated mothers mated with males exposed to microwaves (50-55 mw/cm² for 15 min) (the genetic effect). Both groups of offspring exhibited the types of malformations and developmental anomalies produced by ionizing radiation - decreased viability, slow rate of growth, and CNS abnormalities notably, lags in the formation and stabilization of conditioned reflexes.

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USSR

UDC 612.82:612.014.48

PIONTKOWSKY, I. A., and KRUGLIKOV, R. I.

"Characteristics of Short-Term Memory in Rats Prenatally Exposed to Radiation"

Moscow, Doklady Akademii Nauk USSR, Vol 191, No 1, 1970, pp 218-220

Abstract: Characteristics of short-term memory in rats exposed to 150 on the 16th day of their prenatal development were investigated. The experiment was conducted in a plexiglas T-shaped labyrinth; the base was the starting chamber, shut off by a curtain, leading to the stem, or passageway, which led to two short corridors, right and left, each containing food at different periods. Controls and irradiated rats were accustomed to the labyrinth for 3-4 days. A signal (light and/or sound) indicated where the food was, the curtain was raised, and the rats were allowed to run for their food. After the rats tested food, they were taken up and placed again in the starting chamber. The experiment was repeated but without a signal, with the food in the same place. When the interval between the first and second runs was short (30 sec), the performance of both groups was 1/2

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PIONTKOWSKY, I. A., et al., Moscow, Doklady Akademii Nauk USSR, Vol 191, No 1, 1970, pp 218-220

much alike. When the interval was longer (1-2 min), the accuracy of performance was lessened in both groups, but more pronounced in the irradiated group, indicating the disappearance in the memory of traces of the recently performed actions.

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1/2 023 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EMBRYOLOGIC AND GENETIC EFFECTS OF ELECTROMAGNETIC OSCILLATIONS OF
ULTRA HIGH FREQUENCY (MICROWAVES) -U-
AUTHOR-(03)-PIONTKOVSKIY, I.A., KRUGLIKOV, R.I., YEFREMOVA, T.A.

COUNTRY OF INFO--USSR

SOURCE--PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL'NAYA TERAPIYA, 1970,
VOL 14, NR 2, PP 33-38
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--EMBRYOLOGY, ANIMAL GENETICS, MICROWAVE BIOLOGIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1988/0055

STEP NO--UR/0396/70/D14/002/0033/0038

CIRC ACCESSION NO--AP0105154

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--160CT70

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CIRC ACCESSION NO--AP0105154

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FEMALE RATS WITH 1 TO 20 DAY GESTATION PERIOD WERE SUBJECTED TO IRRADIATION WITH MICROWAVES 10 AND 50-55 MW-CM PRIME2 IN INTENSITY, FOR 20 AND 15 MINUTES, RESPECTIVELY; AFTER IRRADIATION WITH MICROWAVES, 50-55 MW-CM PRIME2 IN INTENSITY FOR 15 MINUTES, MALE RATS WERE COUPLED WITH NONIRRADIATED FEMALE ANIMALS. THE PROGENY OF IRRADIATED ANIMALS DISPLAYED REDUCED VIABILITY, MALDEVELOPMENT AND ANOMALIES, AS WELL AS CHANGES IN THE RATE OF POSTNATAL DEVELOPMENT. THERE WERE ALSO VARIOUS DISTURBANCES OF THE HIGHER NERVOUS ACTIVITY. UNDER DEFINITE CONDITIONS MICROWAVES PROVED TO PRODUCE BOTH GENETIC AND EMBRYOLOGIC EFFECTS. FACILITY: LABORATORIYA NEYRORADIOLUGII INSTITUTA VYSSHEY NERVNOY DEYATEL'NOSTI I NEYROFIZIOLOGII AN SSSR, MOSKVA.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--LEVELING AND INHIBITING ACTION OF SOME ORGANIC COMPOUNDS IN NICKEL
PLATING ELECTROLYTES -U-
AUTHOR-(02)-KRUGIKOV, S.S., ANTIPOVA, L.M. *K*
COUNTRY OF INFO--USSR
SOURCE--ZASHCH. METAL. 1970, 6(1) 81-4
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--NICKEL PLATING, ELECTROLYTIC DEPOSITION, ELECTROLYTE,
ADIPONITRILE, QUINOLINE, AROMATIC SULFUR COMPOUND, HETEROCYCLIC OXYGEN
COMPOUND, IMIDE, BENZOIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1983/0934

STEP NO--UR/0365/70/006/001/0031/0034

CIRC ACCESSION NO--AP0053858

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0053858

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADIPONITRILE, SACCHARIN, COUMARIN, AND 8-SULFAQUINOLINE WERE ADDED UNDER IDENTICAL CONDITIONS TO SULFATE, SULFAMATE, AND FLUOROBORATE NI PLATING ELECTROLYTES AND THE ROTATING CATHODE POTENTIAL WAS MEASURED. INCREASE OF THE C.D. DECREASE THE INHIBITING ACTION OF ALL ADDITIVES. THE MAGNITUDE OF THE LEVELING ACTION VARIED WITH THE C.D. AND WAS ANALOGOUS FOR COUMARIN, SACCHARIN, AND ADIPONITRILE. THE EFFECTS OF CHANGES IN PH AND TEMP. ON THE LEVELING AND INHIBITING ACTIONS FOR ALL ADDITIVES WERE SIMILAR. THE RESULTS ARE IN AGREEMENT WITH THE ADSORPTION DIFFUSION THEORY OF LEVELING.

UNCLASSIFIED

USSR

UDC 621.357.7:669.65(088.8)

KUDRYAVTSEV, N. T., ~~KRUGLIKOV, S. S.~~, NECHAYEV, YE. A., MEDVEDEV, G. I., IZMAYLOVA, T. M.

"Method of Electrodeposition of Tin"

USSR Author's Certificate No 316750, filed 11 Dec 70, published 9 Dec 71 (from RZh-Khimiya, No 12, Jun 72, Abstract No 12L326P)

Translation: A procedure has been patented for electrodeposition of Sn. The procedure is distinguished by the fact that in order to obtain bright smooth deposits of Sn, 1,4-butenediol is introduced into the electrolyte, and the process takes place at 18-25°, D_c 1-5 amps/dm² and with mixing of the electrolyte. The electrolyte contains 25-60 grams/liter of SnSO₄, 80-100 grams/liter of H₂SO₄, 10-15 grams/liter of orthocresol, 3-80 mℓ/liter of 40% 1,4-butenediol, and 1-2 grams/liter of joiner's glue. Example. In an electrolyte containing 50 grams/liter of SnSO₄, 90 grams/liter of H₂SO₄, 10 grams/liter of orthocresol, 30 mℓ/liter of 40% 1,4-butenediol and 1 gram/liter of joiner's glue, the process takes place with agitation at a temperature of 18-25° and D_c 1-5 amps/dm². The films obtained have a mirror finish with a high degree of smoothness, 1.0-1.1.

1/1

- 23 -

USSR

UDC 681.3

KRUGLIKOV, V. K., MAYOROV, S. A., TEYMURAZOV, E. S., Leningrad Institute of Precision Mechanics and Optics

"Increasing the Reliability of Detecting a Useful Signal in a Photoreadout Device"

Leningrad, Izvestiya vysshikh uchebnykh zavedeniy - Prihorostroyeniye, No. 11, 1971, pp 65-67

Abstract: The basic reasons for fluctuations in the output current of a photo-reader are analyzed and a method is proposed for dynamic selection of the threshold maximizing the reliability of distinguishing a useful signal. A useful signal s is said to have a dual nature: either $s = 0$ is absent or $s = 1$ is present. A change in the supply voltage, inhomogeneity in the paper, soiling, uneven printing of the symbols, etc. result in the output current corresponding to the presence or absence of a useful signal not being stable and in extreme cases the photocurrent corresponding to the presence of a useful signal (maximum darkening) appears greater than the photocurrent from the background. The reliability of distinguishing a useful signal under a constant threshold h may not be high under such fluctuations. Contrast is suggested to

1/2

USSR

KRUGLIKOV, V. K., et al, Izvestiya vysshikh uchebnykh zavedeniy - Priboroostro-
yeniye, No. 11, 1971, pp 65-67

raise the reliability: a drop in the intensities of the light flow correspond-
ing to the code 0 or 1 of the useful signal s . Fluctuations in photocurrent
caused by paper inhomogeneities, soiling of the paper and uneven printing are
identified with white noise, since the correlation time of these rapid fluctu-
ations is less than the discreteness interval Δt for reading the information.
Information from the paper is reduced discretely with step Δt . The output
current $s_0, s_1, s_2 \dots$ then exhibits aftereffect properties so that in select-
ing the threshold h the probability of the appearance of a zero $P(0/s_1, s_2, \dots)$
or one $P(1/s_1, s_2, \dots)$ is taken into account under the condition that before
this a certain combination $s_1, s_2, \dots$ of zeros and ones is assumed. An expres-
sion is obtained for the optimal value of the threshold h . In an experimental
test the application of this dynamic threshold decreased the number of reading
errors by a factor of approximately 2.8.

USSR

UDC: 62-55

SANKOVSKIY, Ye. A., KRUGLIKOV, V. V.

"An Optimizer"

USSR Author's Certificate No 314191, filed 10 Dec 69, published 2 Dec 71
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 7,
Jul 72, Abstract No 7A172 P)

Translation: An optimizer is proposed for an adaptive automatic control system. The optimizer contains a control device, an actuator, a device for determining the derivative, and commutation relays. The unit is simplified, and its reliability and interference immunity are improved by making the control unit in the form of a multivibrator with one arm connected through a differential network to one of the actuator inputs, while the other arm is connected through a capacitor to the windings of the first and second commutation relays and through the differential network to the windings of the third relay.

1/1

USSR

UDC: 62-55

SANKOVSKIY, Ye. A. and KRUGLIKOV, V. V.

"Device for Determining Partial Derivatives"

USSR Author's Certificate No 298925, filed 10 Dec 69, published 29 Apr 71 (from RZh-Avtomatika, telemekhanika i vychislitel'naya tekhnika, No 12, 1971, Abstract No 12A159P)

Translation: The proposed device for determining partial derivatives in a self-adjusting automatic control system contains a relay switch for the controlling device and a differentiator. To improve the noise immunity of the device, a series connection of a resolving amplifier with two capacitors in the parallel inverse feedback circuit and an integrating amplifier is installed, the input and output of the latter being connected through the n.r. [normally open?] contact of the first relay switch, while the input and output of the resolving amplifier are connected through the n.z. [normally closed?] contact of the first relay switch. Resume.

1/1

1/2 020 UNCLASSIFIED PROCESSING DATE--18OCT70
TITLE--DIFFRACTION OF 10.6 MU RADIATION STUDIED ON AN ULTRASONIC STANDING
WAVE IN A SOLID -U-
AUTHOR-(02)-KRUGLIKOVA, L.P., TERENTYEV, V.YE. 
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(1), 199-201
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ULTRASONIC WAVE, LIGHT DIFFRACTION, LIGHT MODULATION,
GERMANIUM, SODIUM CHLORIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1984/0369 STEP NO--08/0051/70/028/001/0199/0201
CIRC ACCESSION NO--AP0055154
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0055154
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A METHOD WAS DEVELOPED FOR LOWERING THE LEVEL OF THE EXCITING VOLTAGE BY INCREASING THE LENGTH OF THE RADIATION PATH IN AN ULTRASOUND FIELD. THE PATH WAS EXTENDED BY THE INTRODUCTION OF MIRRORS AT THE END FACES OF A SOLID ACOUSTIC MEDIUM. THE RESULTS INDICATE POSSIBILITIES OF OBTAINING DIFFRACTION MODULATORS OF RADIATION FOR A WIDE SPECTRAL REGION DEPENDING ON TRANSMITTANCE OF THE MODULATING MEDIUM. FOR ROCK SALT THIS REGION IS 0.4-15 MU FOR GE 2-15 MU.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PREPARATION OF CYCLODODECANONE BY THE LIQUID PHASE OXIDATION OF
CYCLODODECANOL -U-
AUTHOR--(05)-SOKOVA, X.M., ANDREYEVA, T.P., ZELENAYA, G.A., KRUGLIKOVA,
V.S., SHIRYAYEVA, V.YE.
COUNTRY OF INFO--USSR
SOURCE--NEFTEKHIMIYA 1970, 10(2), 236-41
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CYCLIC GROUP, HYDROXYL RADICAL, OXIDATION, AROMATIC KETONE,
ALCOHOL, CHEMICAL SYNTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/0963

STEP NO--UR/0204/70/010/002/0236/0241

CIRC ACCESSION NO--AP0134681

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--04DEC70

2/2 012

CIRC ACCESSION NO--AP0134681

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. THE SELECTIVITY OF THE OXID. OF
CYCLODECANOL (I) BY O DEPENDED MAINLY ON THE DEGREE OF CONVERSION OF I
AND THE CONC. OF O IN THE OXID. GAS. AT LESS THAN OR EQUAL TO
10PERCENT CONVERSION OF I, THE SELECTIVITY OF THE REACTION APPROACHED
100PERCENT AND AT 45PERCENT, IT WAS 77PERCENT. THE PRODUCTS WERE
TREATED WITH H SUB3 BO SUB3, AND THEN WITH BOILING H SUB2 O, AND THE
ALCS. SEPD. BY EXTN. WITH ET SUB2 O. FACILITY: INST. NEFTEKHIM.
SIN. IN. TOPCHIEVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--INTERACTION OF DIAMOND CUBIC BORON NITRIDE, AND GRAPHITE WITH GLASS
MELTS -U-
AUTHOR-(04)-PASHCHENKO, O.O., YEMELYANOV, B.M., SHILO, A.E., KRUGLITSKAYA,
V.YA.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(3), 645-5
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--GLASS COMPOSITION, DIAMOND, BORON NITRIDE, SURFACE
TENSION, ADHESION STRENGTH, ABRASIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/1564

STEP NO--UR/0020/70/190/003/0645/0646

CIRC ACCESSION NO--AT0100182

UNCLASSIFIED

212 018

UNCLASSIFIED

PROCESSING DATE--18SEP70

272 018
CIRC ACCESSION NO--AT0100182

272 010
CIRC ACCESSION NO--ATO100182
ABSTRACT--(U) GP-O- ABSTRACT. SMALL PIECES (APPROX. 0.05 G) OF GLASSES OF VARIOUS COMPS. WERE PLACED ON HORIZONTAL POLISHED SURFACES OF DIAMOND AND CUBIC BN, HEATED IN AN AR ATM. TO 800DEGREES, AND THEN THE WETTING ANGLE (THETA) AND SURFACE TENSION (SIGMA) MEASURED. WORK OF ADHESION (A) WAS CALCD. BY THE EQUATION $A = \sigma(1 + \cos \theta)$. THESE DATA ARE IMPORTANT FOR THE MANUF. OF CERAMIC ABRASIVE TOOLS BECAUSE THE BETTER THE WETTING, THE HIGHER THE BONDING STRENGTH BETWEEN ABRASIVE GRAINS AND THE VITREOUS MATRIX. THE K SUB2 O CONTENT OF THE GLASS IMPAIRS WETTING TO A HIGH EXTENT.

UNCLASSIFIED

Glass and Ceramics

UDC 661.134 + 678.84

USSR

PASHCHENKO, A. A., YEMEL'YANOV, B. M., SHILO, A. YE., and KHUGLITSKAYA, V. YA.
Kiev Polytechnical Institute, Kiev, Ministry of Higher and Secondary Specialized
Education USSR

"Interaction of Diamond, Cubic Boron Nitride, and Graphite with Glass Melt"

Moscow, Doklady Akad. Nauk SSSR, Vol 190, No 6, Jan 70, pp 645-646

Abstract: The authors studied the behavior of fused glass in contact with the surfaces of diamond, cubic boron nitride, and graphite, determining its wetting contact angle and adhesion. It was determined that the diamond and cubic boron nitride differ markedly from graphite by their contact angle, which is $< 90^\circ$ and $> 90^\circ$, respectively. Substituting K_2O for Na_2O in the glass results in drastic decrease of its wetting capacity of diamond and boron nitride surfaces. BaO improves slightly the wetting of diamond, and TiO_2 - both of the abrasive agents. The contact angle is lowered considerably on introduction of V_2O_5 . Substituting PbO for B_2O_3 has a detrimental effect on the diamond but improves the wetting of boron nitride. Best results are obtained by increasing the B_2O_3 content; in the case of diamond and cubic boron nitride the angle becomes almost zero, and in the case of graphite it is lowered to below 90° .

USSR

NOVOTOROV, A. S., KRUGLITSKIY, N. N., TRETINNIK, V. Yu., PARKHOMENKO, V. V.,
BELIK, F. A.

"Determination of the Specific Surface of Humates by the Gas-Chromatographic Method"

Khim. Tekhnologiya. Nauch.-proyizv. sb. [Chemical Technology. Scientific and Production Collection], No 2(56), 1971, pp 44-46 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 E1495).

Translation: A gas chromatic installation for determination of the surfaces of solids, mounted on a type LKhM-8M chromatograph, is used to study the adsorption of humic acids and humates of nitrogen and argon. The adsorption measurements are used to calculate the specific surfaces of the humic acids and humates.

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USSR

SEC: 021.391.077

TUDOROVSKIY, A. A. and IRUSLEV, A. A.

"Analyzing the Accuracy of Antenna Rotation Angle Translation Along a Radio Line"

Tr. Leningr. in-ta tekhn. i optiki (Transactions of the Leningrad Institute of Precision Mechanics and Optics) 1970, No. 69, pp 25-27 (from IZh-Radiotekhnika, No. 3, March 71, Abstract No. 3886)

Translation: A method is considered for translating the rotation angle of an antenna by transmission over a radio line of two voltages varying in accordance with the sine and cosine of the angle. A quantitative connection is established between the errors in the translation of the sine and cosine voltages and the errors in the transmitted angle. Possible sources of error in the transmission of these voltages are indicated. One illustration, one table, bibliography of two. V. S.

1/1

1/2 035 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--OPTICAL AND ELECTRICAL PROPERTIES OF CHROMIUM HYDRIDE THIN FILMS
-U-
AUTHOR--(02)--KRYZHANOVSKIY, B.P., KRUGLOV, B.M.
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(3), 597-8
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MATERIALS
TOPIC TAGS--HYDRIDE, CHROMIUM COMPOUND, HYDROGENATION, LIGHT ABSORPTION,
TEMPERATURE DEPENDENCE, SURFACE PROPERTY, RESISTIVITY, POLYCRYSTALLINE
FILM

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1430 STEP NO--UR/0051/70/028/003/0597/0598
CIRC ACCESSION NO--AP0118419
UNCLASSIFIED

2/2 035

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118419

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. OPTICAL AND ELEC. PROPERTIES OF CR HYDRIDE THIN FILMS AS A FUNCTION OF THE DEGREE OF SATN. BY H ARE INVESTIGATED. AS THE TEMP. ON HYDROGENATION IS INCREASED TO LARGER THAN 300-700DEGREES, THE SATN. OF CR BY H PROCEEDS, AND SIMULTANEOUSLY, THE TRANSPARENCY AND THE SPECIFIC SURFACE RESISTANCE OF CR-H FILMS INCREASES. THE SATN. OF CR BY H AT 700DEGREES LEADS TO SHARP GAIN IN LIGHT TRANSMISSION AND SPECIFIC SURFACE RESISTANCE (10 PRIME 12 OMEGA). IN THIS CASE, LIGHT ABSORPTION BY THE FILM IS SMALL (SMALLER THAN 7-10PERCENT) AND THE N IS SIMILAR TO 2.2-2.25.

UNCLASSIFIED

USSR

UDD 555.376:621.362

KHOKHLACHEV, K.I., GAVANIN, V.A., KRUGLOV, I.I., BEKHINA, A.B.

"Pulsed Photometric Parameters Of Light-Emitting Diodes"

V sb. Impul's. fotometriya (Pulse Photometry--Collection Of Works), Issue 2, Leningrad, "Mashinostroyeniye," 1972, pp 147-152 (from RZh:Elektronika i yeye primeneniye, No 9, Sept 1972, Abstract No 9B512)

Translation: Information is furnished on native light-emitting diodes, apparatus is described, and the results are presented of a measurement of the peak value of the radiant intensity of light-emitting diodes and the stability of the peak value of the emission pulses of GaP light-emitting diodes during continuous operation. 4 ill. 2 tab. Summary.

1/1

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USSR

UDC 621.382.416.9

KRUGLOV, I.I., KOMA, YU.A.

"Calculation Of The Light Transmission Coefficients Of Optron Pairs"

Elektron.tekhnika. Nauch.-tekhn.ab. Poluprovodn.pribory (Electronic Techniques. Scientific-Technical Collection. Semiconductor Devices), 1971, Issue 7(86), pp 3-7 (from RZh:Elektronika i yeye primeneniye, No 4, April 1972, Abstract No 48356)

Translation: Formulas are presented for calculation of the light transmission coefficients in the system semiconductor--intervening medium--semiconductor for the case of a two-dimensional light source and receiving surface. The numerical results are presented for a gallium arsenide radiation source and a silicon receiving area which have the form of disks coaxial with one another. 5 ill. 1 ref. Summary.

1/1

- 87 -

USSR

UDC 621.382.95:535.371

RYZHIKOV, I.V., BUNYAYEV, V.A., FOMENKO, G.P., VORONIN, V.G., KMITA, T.G.,
PRONIN, B.V., KHECHLACHEV, K.I., KRUGLOV, I.I., MIKHAYLOV, V.V., TENYAKOV, YE.I

"Voltampere And Lumenampere Characteristics Of Silicon Carbide Light Diodes With High Current Density"

V sb. III Vses. konferentsiya po poluprovodnikov. karbidy kremniya (III All-Union Conference On Semiconductors Of Silicon Carbide), 1968, Moscow, 1970, pp 116-126 (from RZh--Elektronika i yeye primeneniye, No 1, January 1971, Abstract No 1B301)

Translation: Light diodes were investigated, obtained by diffusion of Al and B into n-SiC (6H) at 2000° C (for 40 minutes) and by diffusion of B alone for 10 minutes. The resistivity of the source material is 0.01--0.5 ohm.cm. The circuit for measurements, the experimental results and their consideration are presented. It is established that the voltampere characteristics with a current density 1-5000 a/cm² are described by the expression $I = AV^n$ ($n = 1.6-1.2$), and the lumenampere by $L = I^n$ ($n = 0.55-0.7$). Such dependences are the consequence of a radiative and nonradiative recombination of the carriers in all the regions of the p-n-n⁺ diode. A deviation is observed from the theory connected with the capture of majority carriers by fine centers of attachment. 7 ill. 10 ref. N.S.

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- 74 -

USSR

UDC 621.563:546.19'68'

PTASHCHENKO, A.A., PRESNOV, V.A., KRUGLOV, I.I., GOLEMEINOVSKIY, N.P.,
OVOHINNIKOVA, A.P.

"Excess Currents And Aging Of Light-Emitting Diodes Based On GaAs"

Elektron.tekhnika. Nauch.-tekhn.sb. Poluprovodn. pribory (Electronic Technics. Scientific-Technical Collection. Semiconductor Devices), 1971, Issue 7(64), pp 16-20 (from RZh:Elektronika i yeye primeneniye, No 4, April 1972, Abstract No 4B347)

Translation: The aging was studied of GaAs light-emitting diodes with zinc as the acceptor. Both conventional and anomalous aging was observed. It is known that the excess currents responsible for aging consist of volume and surface components and have a tunnel-thermal nature and are connected with nonuniformities of the p-n junctions. 5 ill. 5 ref. Summary.

1/1

- 71 -

USSR

UDC 535.376

BORODIN, YU.P., BORONIN, V.G., KARSV, YU.A., KRUGLOV, I.I., MIKHAYLOV, L.I.,
PAVLOVA, V.A., PETROV, V.S., RYZHIKOV, I.V.

"Study Of The Region Of Radiative Recombination In Electroluminescent
Structures Based On Diffusion And Epitaxial Specimens Of Gallium Arsenide"

V sb. Elektroluminestsentsiya tverd. tel. (Electroluminescence Of Solid Bodies--
Collection Of Works), Kiev, "Nauk.dumka," 1971, pp 54-58 (From RZh--Elektronika
i yeye primeneniye, No 11, Nov 1971, Abstract No 118363)

Translation: A comprehensive study is presented of the electrical and optical
properties of the region of radiation recombination in diffused and epitaxial
specimens. The distribution is obtained of the impurity in the p-region of
diffused and epitaxial specimens by means of a measurement of the photolumin-
escent spectra. The experimentally determined transition time is: up to 1000
nanosecond with epitaxial specimens and 50 nanosec with diffused. The external
quantum efficiency at $T \approx 300^\circ \text{K}$ of the diffused and epitaxial specimens equals
one percent and five percent, respectively, and for a construction with the
maximum possible external quantum efficiency ~ 9 percent. 6 ill. 5 ref. Summary.

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36

AUTHOR-- KRUGLOV, L.

TITLE-- THE SENSITIVE PULSE BEAT OF THE EARTH

NEWSPAPER-- GUDOK, JANUARY 29, 1970, P 4, COLS 1-4

ABSTRACT-- THE AUTHOR CLAIMS THAT UNTIL VERY RECENTLY THE SOVIET UNION'S SERVICE OF URGENT REPORTS WAS THE ONLY ONE OF ITS KIND IN THE WORLD. IT COMPRISES 100 SEISMIC STATIONS FOUND IN THE TERRITORY OF THE U.S.S.R. MANY OF THESE STATIONS MAINTAIN TELETYPE COMMUNICATION WITH THE CENTRAL SEISMIC STATION "MOSCOW". THE INFORMATION RECEIVED BY THE CENTRAL STATION IS IMMEDIATELY DISSEMINATED TO RELEVANT SOVIET AND FOREIGN ORGANIZATIONS. ONE OF SUCH ORGANIZATIONS IN THE SOVIET UNION IS THE MINISTRY OF MERCHANT MARINE WHICH GETS TIDAL WAVE WARNINGS.

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12

USSR

KRUGLOV, V. M.

"One Class of Limiting Distributions in Hilbert Space"

Lit. Mat. Sb. [Lithuanian Mathematics Collection], 1972, Vol 12, No 3, pp 85-88 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V14, by V. Sazonov).

Translation: Suppose $\mathcal{M}$ is the class of limiting distributions (in the sense of weak convergence) for sequences such as $\{\eta n_j\}$, where $n_j < n_{j+1}$, $n_{j+1}/n_j = r$, $1 \leq r < \infty$, $\eta_n = \delta_n^{-1} \sum_{j=1}^n \xi_j + a_n$, $\delta_n > 0$ and $\xi_1, \xi_2, \dots$ are independent, identically distributed random quantities with values in a Hilbert separable space H , $a_n \in H$. It is demonstrated that distribution $GC\mathcal{M}$ when and only when its characteristic function is either $\exp(i(a, y) - (Sy, y)/2)$, where $a \in H$, S is the kernel operator, or

$$\exp \left[i(a, y) + \int_H \left(e^{i(x, y)} - 1 - \frac{i(x, y)}{1 + \|x\|^2} \right) dM \right],$$

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USSR

Kruglov, V. M., Lit. Mat. Sb., 1972, Vol 12, No 3, pp 85-88.

where M is a measure such that: 1) $M(\{y: ||y|| \geq 1\}) < \infty$, 2) there exist α and $\lambda > 0$ which satisfy the conditions $0 < \alpha < 1$, $M(A) = \lambda^\alpha M(\lambda A)$ for any Borelian A .

2/2

- 3 -

1/2 019 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DESIGN AND OPERATION OF PISTON COMBINATION ENGINES --U-

AUTHOR--(05)--ORLIN, A.S., ALEKSEYEV, V.P., KOSTYGOV, M.I., KRUGLOV, M.G.,
KRYLOV, A.N.
COUNTRY OF INFO--USSR

SOURCE--DESIGN AND OPERATION OF PISTON COMBINATION ENGINES. SEC. ED., REV.
AND EXP. (USTROYSTVO I RABOTA PROSHNEVYKH I KOMBINIROVANNYKH DVIGATELEY)
DATE PUBLISHED-----70

SUBJECT AREAS--PROPULSION AND FUELS

TOPIC TAGS--DIESEL ENGINE, GASOLINE ENGINE, INTERNAL COMBUSTION ENGINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3003/1715

STEP NO--UR/0000/70/000/000/0001/0333

CIRC ACCESSION NO--AM0130577

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AM0130577

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS: INTRODUCTION
5. CHAPTER I. OPERATIONAL PROCESSES IN PISTON AND COMBINATION ENGINES
11. II. PARAMETERS CHARACTERIZING PISTON ENGINES 39. III. THE
WORKING PRINCIPLE OF THE ENGINES 57. IV. GASOLINE ENGINES 145. V.
DIESEL ENGINES 204. VI. GAS ENGINES 324. VII. SPECIAL DESIGNS OF
ENGINES 358. THIS IS A TEXT BOOK WRITTEN FOR THE COURSE "INTERNAL
COMBUSTION ENGINES" OF THE MOSCOW HIGHER TECHNICAL SCHOOL AND CONTAINS A
DESCRIPTION OF THE WORKING PRINCIPLE AND OPERATION OF PISTON INTERNAL
COMBUSTION ENGINES OF ALL TYPES AND ALSO THE SPECIAL FEATURES OF THE
OPERATION AND DESIGN OF COMBINATION AND ROTOR PISTON ENGINES. THIS IS
THE FIRST VOLUME OF A FOUR VOLUME EDITION ON "INTERNAL COMBUSTION
ENGINES".

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DETERMINING THE PORTION OF FRESH MIXTURE IN CRANKING CASE GASES OF
A FOUR CYCLE CARBURETOR ENGINE -U-
AUTHOR-(02)-KRUGLOV, M.G., DMITRIYEV, V.P. **K**

COUNTRY OF INFO--USSR

SOURCE--AVTO. PROM. 1970, 36(1), 6

DATE PUBLISHED-----70

SUBJECT AREAS--PROPELSION AND FUELS

TOPIC TAGS--INTERNAL COMBUSTION ENGINE, CARBON MONOXIDE, CARBON DIOXIDE,
COMBUSTION PRODUCT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/1879

STEP NO--UR/0113/70/036/001/0006/0006

CIRC ACCESSION NO--AP0129239

UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0129239

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROPORTION OF FRESH COMBUSTION MIXT. LEAKING INTO THE CRANKCASE IS DETD. BY ANALYZING THE GASES EXHAUSTED AND THOSE IN THE CRANKCASE FOR CO AND CO SUB2 AND DETG. THEIR RATIO. APPLIED TO A PASSENGER CAR ENGINE, THE METHOD SHOWED AN INCREASE OF THE FRESH CHARGE IN THE CRANKCASE WITH A HIGHER RPM. LEAKAGE OF THE FRESH MIXT. OCCURS MOSTLY DURING THE COMPRESSION CYCLE AND FIRST MOMENTS OF IGNITION WHEN THE MIXT. NEXT TO CYLINDER WALLS IS STILL COOL, INDICATING AN INFERIOR COMBUSTION AT THE CYLINDER WALLS AND IN THE CLEARANCE.

FACILITY: MVTO IN. BAUMANA, MOSCOW, USSR.

UNCLASSIFIED

Acc. Nr:

AA0101359

KRUGLOV

S.A.

Ref. Code:

UR 0482

Abstracting Service: 3-70

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent,

245572

AIRCRAFT FUEL DISCHARGE SYSTEM consists of pump 9, fuel pipes 5, and discharge stop-cock (tap) 6. It is distinguished by providing the fuel pipe 5 with three-phase tap valve 6 and tank 7 connecting the pipe as with the pump. This increases reliability.

21.9.67 as 1184994/40-23 S.A. KRUGLOV (5.11.69) Bul.
19/4.6.69. Class 62c, Int. Cl. B 64d.

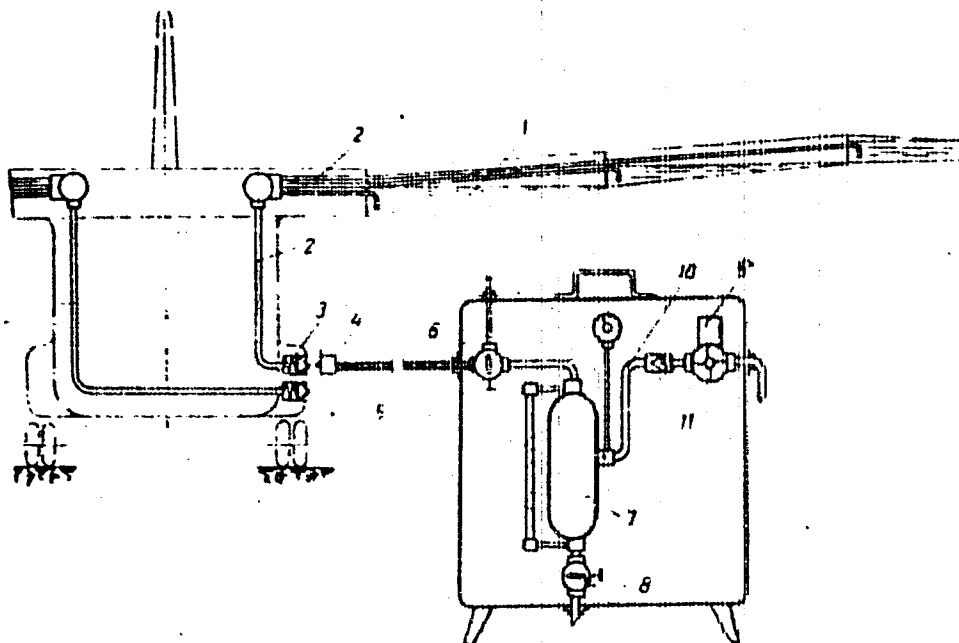
1/2

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19851175

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19851176

USSR

UDC 548.004.12:621.319.1

KRIVOSHCHEKOV, G. V., KRUGLOV, S. B., MARENNIKOV, S. I., and POLEVANOV, Ya. V.

"A Method for Measuring the Temperature Dependence of the Electro-Optical Coefficients of Ferroelectric Crystals"

Moscow, Metrologiya, No 7, 1972, pp 50-55

Abstract: When using optically transparent ferroelectric crystals for controlling laser emission, their electro-optical constants must be known within a wide temperature range. A simple method is proposed for determining the temperature dependence of the linear r_{ijk} and the quadratic R_{ijkl} electro-optical coefficients within the temperature range from 27° C to -195° C, which includes the Curie points (T_c) of KDP and ADP crystals, as well as their deuterated isomorphs. The method consists in measuring the transmission value of the light beam of an He-Ne laser, passed through an optical system containing a polarizer, a crystal, and an analyzer, at a constantly changing temperature and a fixed electrical field. This method avoids the possibility of transmitting the temperature properties of the electro-optical constants near the points of phase transition. 4 figures. 6 references.

1/1

USSR

UDC 547.26'113

KRUGLOV, S. V., IGNAT'YEV, V. M., IONIN, B. I., and PETROV, A. A., Leningrad
Technological Institute imeni Lensovet

"Synthesis of Symmetric and Mixed Esters of Diphosphonous Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 7, Jul 73, pp 1480-1490

Abstract: A series of symmetric and mixed acetylene-, allene-, 1,3-diene- and alkendiphosphonates was synthesized. It was shown that hydrogenation of 1,3-dienephosphonates occurs selectively on the 1,4-position. It was established that the Arbuzov rearrangement of trialkyl phosphites with 1,4-dibromobutyne leads to the formation of a symmetric acetylenediphosphonate, while from the 1,4-dichlorobutyne a diphosphonate with a terminal allene group is formed, i.e. the reaction is accompanied by an acetylene-allene isomerization.

1/1

- 45 -

USSR

UDC 621.373.826:535

GAYNER, A. V., KRIVOSHCHIEV, G. V., KRUGLOV, S. V., LEBEDEV, V. V., and
MARENNIKOV, S. I.

"Studying the Characteristics of a Wide-Angle System for Converting Images From
Infrared to Visible Region"

V sb. Nelineyn. protsessy v optike (Nonlinear Processes in Optics -- collection of
works), Vyp. 2, Novosibirsk, 1972, pp 360-366 (from RZh-Radiotekhnika, No 11, Nov
72, Abstract No 11 D144)

Translation: None.

1/1

USSR

UDC 546(83-882)261,548.55

FUNKE, V. F., PSHENICHNYY, I. V., KRUGLOV, V. N., and KHANKHARDIN, YE. D.

"Substructure and Nature of the Destruction of Zirconium and Niobium Single Crystals"

Moscow, Neorganicheskiye Materialy, Vol 9, No 12, 1973, pp 2151-2155

Abstract: Results are presented from a study of the substructure, brittleness, plasticity, and microhardness relative to the crystalline characteristics of ZrC and NbC single crystals at room temperature. Analyses were made using selective etching and micro-x-ray techniques; analytical procedures are given for each parameter. These crystals are anisotropic with regards to brittleness, plasticity, and microhardness. The planes of maximum and minimum values are given. The degree of brittleness is relative to the orientation of the basal layers and increases in the order (111), (110), and (100). NbC is characterized by a higher degree of plasticity and a smaller degree of anisotropy in the rigidity among the crystallographic surfaces than for the ZrC.

1/1

- 37 -

ELECTRICAL ENGINEERING
Cryogenics and Superconductivity

USSR

DEC: 537.318.00

GRUZIN, P. L., BYCHKOV, Yu. P., YEVSTYUKHINA, I. A., KRUZLOV, V. S.,
NIKOLAYEV, I. N.

"The Mössbauer Effect in Nb_3Sn as a Function of Heat Treatment"

Moscow, Sverkhprovodyashchiye splavy i soediniye---sbornik (Superconductive
Alloys and Compounds--collection of works), "Nauka", 1972, pp 42-47 (From
RZh-Radiotekhnika, No 12, Dec 72, abstract No 120549 [rdsum])

Translation: The superconductive compound Nb_3Sn displays the so-called
"degradation effect" -- an appreciable reduction in T_c when the annealing
or sintering temperature is raised to 2000°C. An investigation was made of
the influence of heat treatment in a vacuum on the parameters of nuclear
gamma resonance. With a rise in annealing temperature a considerable re-
duction was observed in the width of the NMR line and isomer shift, together
with a reduction in absorption probability. The narrowing of the NMR line
is due to an increase in the degree of ordering of the structure of the
compound Nb_3Sn . It is shown that the degree of ordering can be determined
from the absorption probability for different states if the degree of order-
ing and absorption probabilities are known for two other states. With an

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USSR

GRUZIN, P. L. et al., Sverkhprovodnyashchiye splavy i soedini., "Nauka", 1972, pp 42-47

increase in heat-treat temperature, a change was observed in the density of the 5S-electrons on the Sn nucleus. It is shown that the HGS method is very sensitive to the other tin-containing phases in Nb₃Sn. Three illustrations, one table, bibliography of seven titles.

UDC: 621.384.6.5

USSR

ARZUMANOV, A. A., NEMENOV, L. M., ANISIMOV, O. K., NATALIN, S. S.,
VOLKOV, B. A., GROMOV, D. D., KRAVCHENKO, Ya. T., KRUGLOV, V. G.,
NIGNATOV, M. Kh., POPOV, Yu. S., PROKOV'YEV, S. I., and RYBIN, S. N.

"Isochronic Cyclotron With Controllable Ion Energy"

Alma-Ata, Izvestiya AN KazSSR--Teriya Fiziko-matematicheskaya, No 4,
1973, pp 6-15

Abstract: A discussion of the isochronic cyclotron with controllable ion energy built around the U-150-2 accelerator installed in the Institute for Nuclear Physics of the Kazakh SSR Academy of Sciences in 1965 is given. Calculations of the fundamental parameters made with an electronic computer are presented, together with the results of a theoretical analysis, a large part of which was based on approximation methods. These results were verified by a numerical method. The description is given of a program developed for investigating and modeling the magnetic field on a mock-up with a scale of 1:3. An outline drawing of the magnetic arrangement is given, along with curves of the magnetic field. The current correction for the magnetic field is explained, with an illustrative photograph of the correction winding. Also discussed are the

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USSR

UDC: 631.384.6.5 (5)

ARZUMANOV, A. A., et al, Izvestiya AN KazSSR--Tariya Fiziko-
matematicheskaya, No 4, 1973, pp 6-15

high-frequency system and the slit-type ion source, the ions entering the accelerator chamber radially. Curves for the change in beam intensity for accelerated alpha particles are plotted as a function of the accelerator radius. A photograph of the area of installation, showing a beam of protons in air with an energy of 30 Mev, is reproduced together with a photograph of the equipment itself.

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USSR

UDC 619:616-001.28-07

KRUGLOV, V. T., All Union Institute of Experimental Veterinary Medicine

"Analysis of Blood Luminescence for Early Diagnosis of Radiation Sickness"

Moscow, Veterinariya, No 10, Oct 70, p 116

Translation: Thirty-five sheep and goats, 18 cows and calves, and 25 young sows were used in the experiment. The isotope strontium 90 was introduced daily into the sheep with fodder for 55 months and into cows for 30 months. The swine were exposed to external irradiation from an ECO-2 gamma apparatus (150, 200 and 300 r at a dose rate of 570 r/min). Chronic radiation sickness of varying degrees of severity was thereby induced.

Acridine orange (1:20,000) served as the luminophor. Luminescence microscopy of the blood as well as other methods were used in examining the irradiated animals. Green luminescence of leukocytes was considered normal, orange and red "pathological."

In healthy animals (cows, sheep, and swine), red luminescence was observed in only 1.5 to 3% of the leukocytes. In the animals injected with strontium
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USSR

KRUGLOV, V. T., Veterinariya, No 10, Oct 70, p 116

90, the intensity of luminescence of the nuclei increased and a shift toward the yellow, orange, and red tones occurred during the first few weeks. After 2 to 3 months there were 7 to 10% "pathologically" luminescing leukocytes, and the number dropped to the control level intermittently. It increased to 15 to 20% after half a year and began to be observed regularly (although by this time it also decreased to 10 and even 7%). Thereafter the number of leukocytes luminescing red steadily increased to 20 to 25% (by the end of the first year), 30 to 32% (during the second year), 35 to 40% (during the third year), 45 to 50% (during the fourth year), and 55 to 65% (during the next 7 months of intoxication). In remission periods of chronic radiation sickness, the number of pathologically luminescent leukocytes decreased.

During biological loading (injection of vaccines etc.), the number of pathologically luminescent leukocytes increased, a fact which, against the background of a decrease in total number of leukocytes, indicated a state of decompensation.

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USSR

KRUGLOV, V. T., Veterinariya, No 10, Oct 70, p 116

The muddy-reddish luminescence of erythrocyte cytoplasm that followed large integral doses of irradiation was not taken into consideration.

Cattle receiving equivalent total doses of irradiation exhibited approximately the same picture of blood fluorescence as the sheep and goats.

External irradiation of swine caused the intensity of pathological luminescence of the blood to increase more rapidly. Within a few hours after gamma irradiation, there was a statistically significant increase in the number of orange-red luminescing leukocytes (15 to 25% after 18 to 24 hours). On the following days, the number of pathologically luminescent leukocytes gradually decreased, but after large doses of irradiation the level did not fall, despite the absence of clinical symptoms of radiation sickness.

At the height of the severe form of radiation sickness, the number of pathologically luminescing leukocytes increased to 60% or more, after which death usually occurred.

3/3

Acc. Nr:

AP0106264

Abstracting Service: 6.7
INTERNAT. AEROSPACE ABST.

Ref. Code:

4P0120

KRUGLOV

YUN

A70-28184 A device for transmitting analog signals
(Ustroistvo dlia peredachi analogovykh signalov). V. M. Arkhipov, M.
V. Gaifullin, Iu. N. Kruglov, and V. G. Shatokhin. *Priboi i Tekhnika
Eksperimenta*, Jan.-Feb. 1970, p. 195-197. In Russian.

Description of a device for transmitting information in analog form, using He-Ne laser radiation to attain a time resolution of 8 nsec. A detailed study is made of the transfer characteristics of an optical telemetric channel for transmitting pulsed nanosecond signals in analog form. It is shown that, if the light intensity at the modulator output at the initial operating point amounts to 12 to 17% of the maximum and the operating conditions of the photodetector are correctly chosen, a pulse with an amplitude of up to 300 V can be transmitted through the telemetric channel with minimum nonlinear distortions. It is noted that the wideband feature of the transmission line in such a system is determined mainly by the time resolution of the photomultiplier.

A.B.K.

Page

REEL/FRAME
19881508

4

Pesticides

USSR

UDC 632.954:630:576.8

KRUGLOV, Yu. V., GERSH, N. B., and BEI-BIYENKO, N. V., All Union Scientific Research Institute of Agricultural Microbiology

"The Effect of Meturin on the Biological Activity of Soil"

Moscow, Khimiya v Sel'skom Khozyaistve, No 4, 1973, pp 54-56

Abstract: It has been shown that meturin -- N-phenyl-N-hydroxy-N-methylurea -- has essentially no effect on soil microorganisms nitrification process or enzyme activity. The only significant change in the soil was found in the activity of aerobic cellulose decomposing bacteria and urease. The lowering of some indicators of biological activity in the soil treated with meturin is due to a lower weed content of a given field, so that organic materials are not introduced into the soil with the weeds.

1/1

Acc. Nr:

170046554

Raf. Code: UR 0216

PRIMARY SOURCE: Izvestiya Akademii Nauk SSSR, Seriya
Biologicheskaya, 1970, Nr 1, pp 144-147

Y. Y. KRUGLOV

AN ALGOLOGIC METHOD OF ATRAZINE DETERMINATION IN SOIL

*All Union Research Institute of Agricultural
Microbiology, Leningrad*

Algae were isolated from a sod-podzol soil, pertaining to the Chlorella vulgaris group. They are inhibited by microdoses of atrazine in the nutritive liquid. An algological method of determination of residual atrazine toxicity in soil is proposed.

REEL/FRA
19781817

1/2 012 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DETOXICATION OF SIMAZIN BY MICROSCOPIC ALGAE -U-
AUTHOR-(02)-KRUGLOV, YU.V., PAROMENSKAYA, L.N.
CCUNTRY OF INFO--USSR
SOURCE--MIKROBIOLOGIYA, 1970, VOL 39, NR 1, PP 157-160
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HERBICIDE, BIODEGRADATION, GREEN ALGAE/UISIMAZIN HERBICIDE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FAME--1996/0442 STEP NO--UR/0220/70/039/001/0157/0160
CIRC ACCESSION NO--AP0117678

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0117678

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INTENSIVE SIMAZIN DETOXICATION
TOOK PLACE IN SOIL INOCULATED WITH A CULTURE OF GREEN ALGA CHLOROSARCINA
SP. GREEN ALGAE ANKISTRODESMUS BRAUNII AND CHLOROSARCINA SP. CONSUMED
SIMAZIN FROM MINERAL SOLUTION. SIMAZIN WAS PARTIALLY METABOLIZED OR
FORMED SOME PHYSICO CHEMICAL BOND WITH PROTEIN. THE RATE AND DEGREE OF
SIMAZIN TRANSFORMATION SEEMED TO BE DIFFERENT IN SENSITIVE (ANK.
BRAUNII) AND RESISTANT (CHLOROSARCINA SP.) ALGAL SPECIES.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--PURIFICATION OF ORGANOSILANES -U-
AUTHOR--(05)-KLEBANSKIY, A.L., GRUBER, V.N., KRUGLOVA, G.A., KARLIN, A.V.,
LOBKOV, V.D.
COUNTRY OF INFO--USSR
SOURCE--USSR 265,884
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRATSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--17MAR70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL PATENT, ORGANIC SILANE, CHLORINATION, DISTILLATION,
CHEMICAL PURIFICATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1480 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0123379
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AA0128379

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPODS. ARE PURIFIED BY CHLORINATION WITH THE AID OF UNSATD. ORGANOCHLOROSILANES, E. G. METHYLVINYL DICHLOPOSILANE, FOLLOWED BY FRACTIONAL DISTN. OF THE FINAL PRODUCT. THE STILL RESIDUES FROM THE FRACTIONAL DISTN. OF METHYLVINYL DICHLOPOSILANE (CONTG. VINYL GROUPS) CAN BE USED AS THE CHLORINATING AGENT.

UNCLASSIFIED

Acc. Nr:

AP0036827

Ref. Code: UR 0016

PRIMARY SOURCE: Zhurnal Mikrobiologii, Epidemiologii, i
Immunobiologii, 1970, Nr 1, pp 115-116

A STUDY OF THE DURATION OF DIPHTHERIA CARRIER
STATE AND OF ITS DISTRIBUTION ACCORDING TO AGE

Lazareva, Z. A.; Bibergan, Ye. I.; Kruglyachenko, A. I.

A total of 6,555 persons were examined for carrier state; of this number 132 proved to be carriers. The carriers comprised: 56.7% of children aged from 4 to 6 years, and 22.7% of adults. In 63.9% of the cases the carrier state was transitory, in 3% — of moderate duration, and in 23.5% — prolonged and relapsing. Schick test proved to be negative in all the carriers; it was positive in 3 (1%) of 298 family contacts of the carriers.

The majority of the carriers were suffering from chronic diseases of the nasopharynx, and 4 children — from toxemia of tuberculosis origin.

The use for examination, along with Loeffler's medium, of semisolid enrichment medium offered a possibility of revealing additionally 56 carriers, this constituting 42.3% of the total number of the carriers revealed.

REF. FRAME

6

USSR

UDC 591.1478

LORENTS, O. G., and KRUGLYAK, L. N.

"Concentration of Thyroglobulin and Proteolytic Activity Changes in Thyroid Gland Tissue of Animals Under Hypoxia Conditions"

Dushanbe, Doklady Akademii Nauk Tadzhikskoy SSR, Vol 15, No 2, 1972, pp 62-64

Abstract: In order to clarify the effect of oxygen deficiency on the thyroglobulin concentration in the colloid within the thyroid follicles, experiments were carried out with rats in a chamber, the pressure in which was simulated to be equal to that at a 6 km elevation. Rats were kept at this pressure for 18 hours/day, from 1 to 14 consecutive days. The amount of thyroglobulin in the thyroid tissue was determined from the precipitation reaction of the thyroid extract diluted to 1:2-1:128 with antithyroid phytoprecipitin in agar gel. Concentration of thyroglobulin was judged from titers, i.e., from a maximal dilution of the thyroid extracts which would still react with phytoprecipitin. Proteolytic activity was established from the decomposition rate of hemoglobin which was used as a substrate for the thyroid extract. This activity was expressed in the amount of tyrosine in thyroid gland, which was determined colorimetrically. Experimental data showed that the thyroglobulin titer changed from 1:16-1:32 (control) to 1:48, 1:64, and 1:90 for rats kept in the pressure chamber for one week. These titers remained at the same

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USSR

LORENTS, O. G., and KRUGLYAK, L. N., Doklady Akademii Nauk Tadzhikskoy SSR, Vol 15, No 2, 1972, pp 62-64

level for rats kept in the chamber for 2 weeks. Titers of rats kept in the pressure chamber for less than one week did not differ from those of control animals. With respect to proteolytic activity, the experimental rats subjected to hypoxia produced an average of 198 micrograms of tyrosine during 4 hours of thyroid tissue incubation, as opposed to 313 micrograms for control animals. The obtained results indicated that hypoxia increased the production of thyroglobulin due to the inhibition of the proteolytic activity of the thyroid gland. This indicates that an animal organism requires less thyroid hormones in the presence of an oxygen deficiency. The production of these hormones does not decrease under hypoxia conditions but their release into the blood stream decreases, and this is one of the mechanisms which facilitates survival of animals with an insufficient oxygen supply.

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UDC 491.1478

USSR

LORENTS, O. G., and KRUGLYAK, L. N., Tadzhik State Medical Institute imeni
Abuali ibn-Sino

"Thyroid Response to Throtropin in Hypoxic Rats"

Dushanbe, Doklady Akademii Nauk Tadzhikskoy SSR, No 5, 1971, pp 62-64

Abstract: In rats given an extract of cattle thyrotropin in a dose equivalent to five pituitaries, hypoxia created in a pressure chamber increased the amount of absorbed oxygen by 36% above the baseline value 24 hours later. In the control animals (injected with the hormone but not exposed to hypoxia), the amount of absorbed oxygen increased by about the same amount (32%). Histologic examination of the microstructure of the thyroid in both the experimental and control animals revealed identical changes: marked vacuolization of the colloid and increased height of the epithelial cells. Thus, hypoxia neither potentiated nor weakened the effect of thyrotropin.

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- 54 -

Acc. Nr:

AP0055525

Abstracting Service:
CHEMICAL ABST. 5 7c

Ref. Code:

US 0000

93462b Full configuration interaction for the benzyl radical. Kuprievich, V. A.; Kruglyak, Yu. A.; Mozdor, E. V. (Div. Theor. Chem. Struct. Reactiv., L. V. Pisarzhevskii Inst. Phys. Chem., Kiev, USSR). *Int. J. Quantum Chem.* 1970, 4(1), 13-81 (Eng). The electronic structure of the benzyl radical in its ground state has been computed by using a model Hamiltonian due to Pariser-Parr with full configuration interaction as well as with different truncated configurational sets built on SCF open-shell orbitals. The correlation energy corresponding to this model was equal to -0.929722 eV. With the singly excited configurations only 18% of this energy is taken into account. By extending the basis to include the doubly excited configurations, one can account for 94% of the correlation energy. An anal. of the accuracy of the proton hyperfine splitting calcn. caused by inaccurate computation of the wave function is given. If only singly and even doubly excited configurations are taken into account, one cannot hope to obtain splittings with an accuracy of more than 0.5 G. Inclusion of triply excited configurations lowers this error by one order. In addn., the use of the simple McConnell relation may lead to an error in splitting calcns. of no less than 1.5 G. H.C.M.S.

REEL/FRA
19840823

i.b 7

1/2 013 UNCLASSIFIED PROCESSING DATE--2500170
TITLE--ELECTRONIC STRUCTURE OF THE BENZYL RADICAL TAKING INTO ACCOUNT THE
TOTAL CONFIGURATION INTERACTION -U-
AUTHOR-(03)-KRUGLYAK, YU.A., MOZDOR, E.V., KUPRIEVICH, Y.A.
COUNTRY OF INFO--USSR K
SOURCE--DOKL. BOLG. AKAD. NAUK 1970, 23(1), 89-92
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTRON STRUCTURE, BENZENE DERIVATIVE, FREE RADICAL, GROUND
STATE, CALCULATION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1126 STEP NO--BU/0011/70/013/001/0039/0092
CIRC ACCESSION NO--AT0119980
UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0119980

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE CALC. WAS CARRIED OUT BY TAKING INTO ACCOUNT THE GROUND AND 403 EXCITED EXCITED CONFIGURATIONS OF BENZYL RADICAL (1) BY USING THE PARISER-PARR HAMILTONIAN AND ASSUMING THE RESONANCE INTEGRAL EQUALS 2.274 EV, C-C BOND LENGTH EQUALS 1.4 ANGSTROM, AND ALL BOND ANGLES EQUAL 120DEGREES. BOND ORDERS AND ELEMENTS OF THE SPIN D. MATRIX ARE GIVEN FOR THE GROUND STATE OF 1. THE RESULTS DO NOT CONFIRM THE GENERAL VIEW THAT IT IS SUFFICIENT TO CONSIDER EXCITED CONFIGURATIONS ONLY ONCE IN THE CALC. OF THE ELECTRON STRUCTURE OF RADICALS. FACILITY: INST. FIZ. KHIM. IM, PISARZHEVSKOGO, KIEV, USSR.

UNCLASSIFIED

1/2 025 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--ELECTRONIC ASPECTS OF THE PHOTODIMERIZATION OF PYRIMIDINE BASES AND
THEIR DERIVATIVES -U-
AUTHOR-(04)-KRUGLYAK, YU.A., DANILOV, V.I., KUPRIYEVICH, V.A., OGLOBLIN,
V.V.
COUNTRY OF INFO--USSR
SOURCE--TEOR. EKSP. FIZ. 1970, 6(11), 33-9
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS, BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--DIMERIZATION, PYRIMIDINE, EXCITED STATE, URACIL, THYMINE,
PHOTOEFFECT, FREE RADICAL, DNA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--3002/1114

STEP NO--UR/0379/TQ/006/001/0033/0039

CIRC ACCESSION NO--AP0128541

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0123541

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CALCNS. WERE MADE ON THE LOWEST
EXCITED TRIPLET (T SUB1) AND SINGLET (S SUB1) STATES OF THE TITLE
COMPODS. (URACIL, 6, METHYLURACIL, THYMINE, ORATIC ACID, 5,4-THIOURACIL,
CYTOSINE, 5, METHYLCYTOSINE, 2, THIOTHYMINE, ISOCYTOSINE, 5, NITROURACIL,
AND 6, AZATHYMINE) BY SCF CI (CONFIGURATION INTERACTION) METHODS.
EXCITATION ESP. CONCERNS THE C SUB5 C SUB6 BOND IN T SUB1 AND S SUB1
STATES, TRIPLET EXCITATION BEING ENTIRELY LOCALIZED ON THIS BOND. IN
THE T SUB1 STATE, THIS BOND IS VERY WEAKENED AND, THUS, THE CONDITIONS
FOR DIMERIZATION ARE MORE FAVORABLE IN THE T SUB1 THAN IN THE S SUB1
STATE. A CORRELATION IS PROPOSED BETWEEN THE DEGREE OF LOCALIZATION OF
TRIPLET EXCITATION OF C SUB5 C SUB6 BOND AND THE RATE OF
PHOTODIMERIZATION. EXPTL. DATA CONCERNING FORMATION OF THYMINE FREE
RADICALS IN DNA ARE EXPLAINED. FACILITY: INST. FIZ. KHIM. IN.
PISARZHEVSKOGO, KIEV, USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--NON EMPIRICAL COMPUTATION OF THE BENZYL RADICAL ELECTRONIC
STRUCTURE -U-
AUTHOR-(03)-KRUGLYAK, YU.A., PREYSS, KH., YANDSHCHEK, R.
COUNTRY OF INFO--USSR
SOURCE--UKRAYIN. FIZ. ZH. (USSR), VOL. 15, NO. 6, P. 980-8 (JUNE 1970)
DATE PUBLISHED----JUN70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ELECTRON STRUCTURE, BENZENE DERIVATIVE, FREE RADICAL, ELECTRON
SPIN RESONANCE, SPECTRUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605029/F05 STEP NO--UR/0185/70/015/006/0980/0988
CIRC ACCESSION NO--AP0141770
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0141770

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS ARE PRESENTED OF NON
EMPIRICAL COMPUTATION OF THE BENZYL RADICAL BY THE UNRESTRICTED SCF
METHOD ON THE GAUSSIAN BASIS WITH AN ACCOUNT FOR ALL 44 ELECTRONS.
CLOSE ANALOGY IS FOUND BETWEEN SEMIEMPIRICAL PI ELECTRONIC AND
NONEMPIRICAL DESCRIPTION OF HTE FILLED PI SHELLS. SPIN DENSITY
DISTRIBUTION COMPUTED DIRECTLY AT THE PROTONS AGREES QUALITATIVELY WITH
EXPERIMENTAL ESR SPECTRA OF BENZYL. NOTICEABLE ALTERNATION OF PI
ELECTRONIC DENSITY ON CARBON ATOMS IS FOUND. .

UNCLASSIFIED

USSR

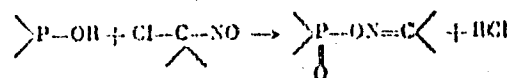
UIC 547.21:118

MALEKIN, S. I., YAKUTIN, V. I., SOKALSKIY, M. A., KRUGLYAK, YU. I., and
MARTYNOV, I. V.

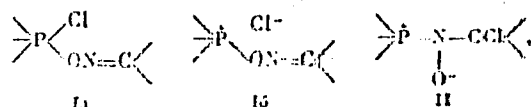
"Information on the Mechanism of the Reaction of α -Chloronitrosoalkanes With
Trivalent Phosphorous Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 807-811

Abstract: The general reaction for these systems is:



The intermediate (II) may be obtained via two pathways: either through a species
containing a five-coordinate neutral P(Ia) or through one

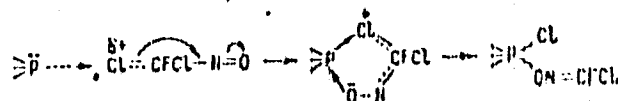


containing a four-coordinate positive P(Ib). Examination of IR spectra in the
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MALEKIN, S. I., et al., Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 807-811

region of C=N and N=O vibrations and of the NMR spectra of P^{31} and F^{19} , the pathway through Ia was confirmed. Thus the nucleophilic attack by the trivalent phosphorous on the positively charged chlorine atom of the dichlorofluoronitrosomethane probably occurs with a cooperative transfer of an electron to the oxygen of the nitrosyl group breaking the Cl-C bond as shown below:



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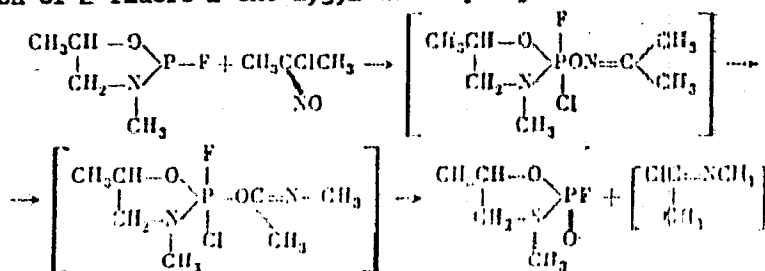
UDC 547.26'118

MALEKIN, S. I., KUGLYAK, YU. L., MARTYNOV, I. V., and NEGREBETSKIY, V. V.

"Phosphorylated Oximes. XIII. Reaction of Fluorophospholanes With α -Monochloronitrosoalkanes. The Beckman Rearrangement"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 814-816

Abstract: The reaction of the penta-coordinate phosphorous compound 2-fluoro-1,3,2-azaoxaphospholanes with α -monochloronitrosoalkanes results in the formation of 2-fluoro-2-oxo-1,3,2-azaoxaphospholane. The mechanism is as follows:



The latter reacts with water to give the corresponding amide, $\text{CH}_3\text{CNHCE}_3$.

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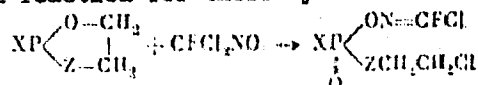
UDC 547.26'118

KRUGLYAK, YU. L., MALEKIN, S. I., and MARTYNOV, I. V.

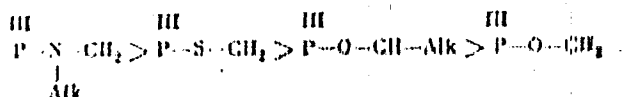
"Phosphorylated Oximes: XII. Reaction of 2-Halophospholanes With Dichlorofluoronitrosomethane"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 811-814

Abstract: The general reaction for these systems can be written as



where X = Cl⁻ or F⁻ and Z = O, S, or N-alkyl. The reaction goes with the phospholane ring breaking at the C-O bond; the P-N-C and P-S-C bonds do not break. This leads to an order of decreasing stability.



Physical properties, IR and elemental analysis data are given for the nine particular compounds studied.

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UDC 546.185

PRIVEZENTSEVA, N. F., CHELOBOV, F. N., KRUGLYAK, Yu. L., and MARTYNOV, I. V.

"Phosphorylated Oximes. XI. Oximetetrachlorophosphorans"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 305-307

Abstract: Phosphorus pentachloride reacts with dichloroformoxime or dichloroformimine dichlorophosphate to produce dichloroformoximetetrachlorophosphoran. The resultant phosphoran is a mobile liquid which distills under vacuum. The structure of the compound was identified by its IR-, nmr- and mass-spectra as well as by chemical conversions. Dichloroformoximetetrachlorophosphoran is the first representative of oximetetrachlorophosphorans -- intermediate products of the Beckmann rearrangement of ketoximes.

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UDC 547.21'11

MALEKIN, S. I., SOKAL'SKIY, M. A., ~~KRUCIYAK, Yu. L.~~ and MARTYNOV, I. V.

"Phosphorylated Oximes. X. Reaction of 2-Alkoxy-1,3,2-azaoxaphospholans With α -Chloronitrosoalkanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(103), No 2, Feb 72, pp 302-305

Abstract: Dichlorofluoronitrosomethane reacts with 2-alkoxy-1-methyl-1,3,2-azaoxaphospholans in an Allen type reaction. Depending on the structure of the initial phospholan, the carbon-oxygen bond in the alkoxy radical is broken, or the bond is broken in the azaoxaphospholan ring. Analysis of the general pattern of the reaction shows that the carbon-oxygen bond in the alkoxy radical breaks with increasing ease as the number of atoms of carbon in the radical decreases. Since there is only a slight difference in the reactivity of the carbon-oxygen bonds in the alkoxy radical and the azaoxaphospholan ring, both types of reactions take place simultaneously in some instances.

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UDC 547.26.118

KIRPICHEV, P. P., BAL'CHENKO, R. K., KRUGLYAK, YU. I.,
MARTYNOV, I. V.

"Reaction of 1,3,2-Dioxaphospholanes With N-Chloroimidoacetic
Esters"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, p 2338

Abstract: For the first time, a study was made of the reactions of 1,3,2-dioxaphospholanes with N-chloroacetimidic ethyl ester. It was shown that the reactions of 2-halo- or 2-alkoxy-1,3,2-dioxaphospholanes (I), with 0-1 alkyl substituents at the 4 and 5 positions in the ring, gave open-chain phosphoryl compounds resulting from breaking of the C-O bond in the ring. In contrast, the reactions of I, with more than one alkyl substituent in 4 or 5 positions, gave the dioxaphospholane ring compounds and a halo-alkane. The yields and some physical constants of the compounds obtained are given.

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UDC 547.26.118

KRUGLYAK, YU. L., LANDAU, M. A., LEYBOVSAYA, G. A., MARTYNOV, I. V., SALTYKOVA, L. I.

"Reaction of O-Imino-O,O-Dialkylphosphites with α -Chloronitroso- and α -Chloronitroalkanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971, pp 2338-2339

Abstract: A series of chemical conversions of O-imino-O,O-dialkyl phosphites (I) were carried out at a temperature in the -10 to 0 degrees, because of known instability of I at a temperature above 0 degrees. Particularly, the typical reactions of trialkyl phosphites with α -chloronitroso- and α -chloronitroalkanes gave, in the case of I, O,O-diimino-O-alkyl phosphites. The structure of the latter was determined by their NMR and IR spectra. The formulas and some physical constants of the prepared compounds are given.

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KRUGLYAKOV, E. P.

JPRS 59040
17 May 1972

Quantitative CO₂ Laser with Pulsed Excitation

Article by I. L. Kuvshinov, I. P. Kruglyakov, V. A. Malinovsky, A. M. Nosenko, Zhurnal Tekhnicheskoy Fiziki, 38(1), 1972, pp. 1-5, 15 refs. Translated from Zh. Tekhn. Fiz., 38, 1972, pp. 1-5, 15 refs.

Several methods of obtaining high inversion population in CO₂-He lasers are discussed in the literature [1-3]. A laser model that combines the advantages of pulsed excitation of molecules in the discharge [1] and non-equilibrium discharge of supersonic flow in a vacuum [2, 3], is described in this article.

The experiment is illustrated in Figure 1. The working mixture CO₂-He (component ratio 1:3.0, respectively), prepared in chamber 1, flows through high-speed valve 2 (opening time $5 \cdot 10^{-6}$ sec) into level nozzle 3 and is accelerated to a velocity of $5 \cdot 10^3$ cm/sec. The initial vacuum in the system was about 10^{-4} torr. Nozzle volume 4 is a high-capacity pump, with which free discharge of the flow in the vacuum in 20-10⁻⁶ sec was simulated. The stationary flow mode was established $5 \cdot 10^{-6}$ sec after actuation of the valve and a rectangular pulse with a duration up to $2 \cdot 10^{-6}$ sec was admitted to the discharge gap, comprising grid 2. The length of an individual discharge channel in the direction of flow was 2 cm, and the diameter was 0.5 cm. The summary transparency of the grid was 50%.

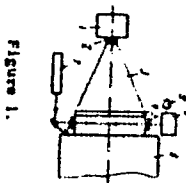


Figure 1.

The chief difference between this model and the one described in [1], using high gas jetting rates to increase discharge power, is the fact that the flight time of gas molecules through the discharge gap (for the typical conditions of the described experiments (summary summary of the nature in the discharge area $4 \cdot 10^{-7}$ - $1.5 \cdot 10^{-6}$ cm)) is considerably shorter than the characteristic lifetime of the level 00¹ 1 of CO₂ (τ).

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UDC 577.1:547.963.3

ZHIL'TSOVA, V. M., ZHIZHINA, G. P., KRUGLYAKOVA, K. Ya., and GINDIN, L. G.,
Institute of Chemical Physics, USSR Academy of Sciences, Moscow

"Structural Changes in Single-Strand DNA After Exposure to Ultraviolet Rays"

Moscow, Izvestiya Akademii Nauk SSR, Seriya Biologicheskaya, No 3, 1973,
pp 432-435

Abstract: Ultraviolet irradiation of aqueous solutions of single-strand DNA (isolated from rat spleen) caused an exponential decrease in viscosity and optical density at 260 nm. Dimerization of the thymine bases and rupture of the polynucleotide chains resulted in partial twisting of the DNA strands.

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UDC 577.1:615.7/9

SEREBRYANY, A. M., SMOTRYAYEVA, M. A., KRUGLYAKOVA, K. Ye. and
KOSTYANOVSKIY, R. G.

"Study of the Molecular Mechanism of the Mutagenic Effect of N-Nitro-N-Methylurea"

V sb. 7-y Mezhdunar. Simpozium po khimii prirod. sovedin. 1970. Izv. dokl.
(7th International Symposium on the Chemistry of Natural Products. Abstracts
of Reports -- Collection of Works), Riga, "Zinatne", 1970, pp 230-231 (from
RZh-30F. Biologicheskaya Khimiya, No 1, Jan 71, Abstract No IF2110)

Translation: Under the action of N-nitroso-N-methylurea (I) on DNA of thymus
and spleen in rats, carbamoylation of DNA and fragmentation of the polynucleo-
tide chain takes place together with methylation. Among the products of the
reaction of I with cytidine is N-carbamoylcytidine; its acid hydrolysis forms
uridine. According to the conclusion of the authors, carbamoylation of DNA in
vivo may lead to the occurrence of mutations. A. Ignatlyev